What is claimed is:

1. A method for treating a vision disorder, improving vision, treating memory impairment or enhancing memory performance in an animal, which comprises ~~adminstering~~ administering to said animal an effective amount of an N-heterocyclic ring compound containing a carboxylic acid or carboxylic acid isostere moiety thereof attached to the 2-carbon of the N-heterocyclic ring.

2. The method of claim 1, wherein the N-heterocyclic ring compound is immunosuppressive or non-immunosuppressive.

3. The method of claim 1, wherein the N-heterocyclic ring compound has an affinity for an FKBP-type immunophilin.

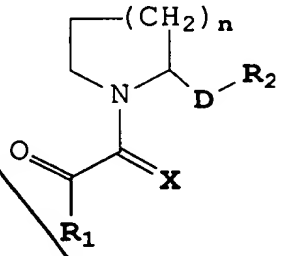
4. The method of claim 3, wherein the FKBP-type immunophilin is FKBP-12.

~~5. The~~ method of claim 1, wherein the vision disorder is selected from the group consisting of: visual impairments; orbital disorders; disorders of the lacrimal appartus; disorders of the eyelids; disorders of the

conjunctiva; disorders of the cornea; cataract; disorders of the uveal tract; disorders of the retina; disorders of the optic nerve or visual pathways; free radical induced eye disorders and diseases; immunologically-mediated eye disorders and disorders; eye injuries; and ~~symtoms~~ and complications of eye disease, eye disorder, or eye injury.

6. The method of claim 1, which is for improving naturally-occurring vision in an animal, in the absence of any opthalmologic disorder, disease, or injury.

7. The method of claim 1, wherein the N-heterocyclic ring compound is a compound having the formula (I):



I

where

n is 1-3;

X is either O or S;

R_1 is selected from the group consisting of C_1-C_9

straight or branched chain alkyl, C_2-C_9 straight or branched chain alkenyl, aryl, heteroaryl, carbocycle, or heterocycle;

D is a bond, or a C_1-C_{10} straight or branched chain alkyl, C_2-C_{10} alkenyl or C_2-C_{10} alkynyl; and

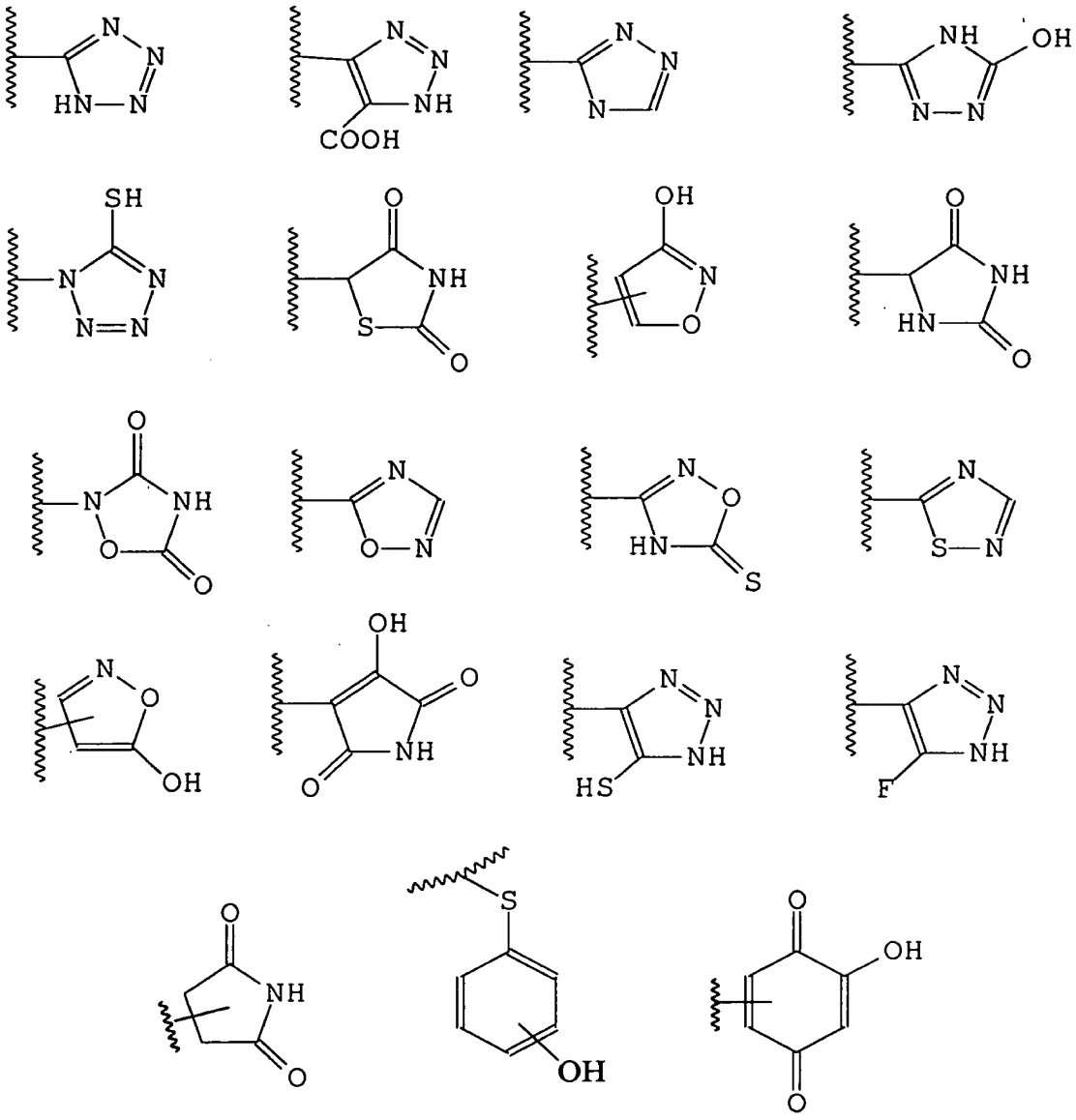
R_2 is a carboxylic acid or a carboxylic acid isostere;

or a pharmaceutically acceptable salt, ester, or solvate thereof.

8. The method of claim 7, wherein R_2 is a carbocycle or heterocycle containing any combination of CH_2, O, S, or N in any chemically stable oxidation state, where any of the atoms of said ring structure are optionally substituted in one or more positions with R^3, wherein

R^3 is hydrogen, hydroxy, halo, haloalkyl, thiocarbonyl, alkoxy, alkenoxy, alkylaryloxy, aryloxy, arylalkyloxy, cyano, nitro, imino, alkylamino, aminoalkyl, sulfhydryl, thioalkyl, alkylthio, sulfonyl, C_1-C_6 straight or branched chain alkyl, C_2-C_6 straight or branched chain alkenyl or alkynyl, aryl, heteroaryl, carbocycle, heterocycle, and CO_2R^4 where R^4 is hydrogen or C_1-C_9 straight or branched chain alkyl or alkenyl.

9. The method of claim 7, wherein R_2 is selected from the group below:



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where the atoms of said ring structure R_2 may be optionally substituted at one or more positions with R^3, wherein

R^3 is hydrogen, hydroxy, halo, haloalkyl, thiocarbonyl, alkoxy, alkenoxy, alkylaryloxy, aryloxy, arylalkyloxy, cyano, nitro, imino, alkylamino, aminoalkyl, sulfhydryl, thioalkyl, alkylthio, sulfonyl, C_1-C_6 straight or branched chain alkyl, C_2-C_6 straight or branched chain alkenyl or alkynyl, aryl, heteroaryl, carbocycle, heterocycle, and CO_2R^4 where R^4 is hydrogen or C_1-C_9 straight or branched chain alkyl or alkenyl.

10. The method of claim 7, wherein R_2 is selected from the group consisting of -COOH, $-SO_3H$, $-SO_2HNR^3$, $-PO_2(R^3)_2$, -CN, $-PO_3(R^3)_2$, $-OR^3$, $-SR^3$, $-NHCOR^3$, $-N(R^3)_2$, $-CON(R^3)_2$, $-CONH(O)R^3$, $-CONHNHSO_2R^3$, $-COHNSO_2R^3$, and $-CONR^3CN$.

Subt A3

11. The method of claim 7, wherein the N-heterocyclic ring compound is selected from the group consisting of: (2S)-1-(1,2-dioxo-3,3-dimethylpentyl)-2-hydroxymethyl pyrrolidine; (2S)-1-(1,2-dioxo-3,3-dimethylpentyl)-2-pyrrolidinetetrazole; (2S)-1-(1,2-dioxo-3,3-dimethylpentyl)-2-pyrrolidinecarbonitrile; (2S)-1-(1,2-dioxo-3,3-dimethylpentyl)-2-aminocarbonyl piperidine; and compounds 1-25, 27, 28, 31-33, and 35-136

~~of Tables I, II, and III.~~

12. A pharmaceutical composition for treating a vision disorder, improving vision, treating memory impairment or enhancing memory performance in an animal, comprising:

a) an effective amount of an N-heterocyclic carboxylic acid or carboxylic acid isostere for treating a vision disorder, improving vision, treating memory impairment or enhancing memory performance in an animal; and

b) a pharmaceutically acceptable carrier.

13. The pharmaceutical composition of claim 12, wherein the N-heterocyclic carboxylic acid or carboxylic acid isostere is immunosuppressive or non-immunosuppressive.

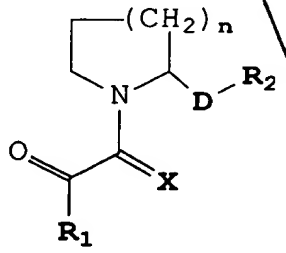
14. The pharmaceutical composition of claim 12, wherein the N-heterocyclic ring compound has an affinity for an FKBP-type immunophilin.

15. The pharmaceutical composition of claim 14, wherein the FKBP-type immunophilin is FKBP-12.

16. The pharmaceutical composition of claim 12, wherein the vision disorder is selected from the group consisting of: visual impairments; orbital disorders; disorders of the lacrimal appartus; disorders of the eyelids; disorders of the conjunctiva; disorders of the cornea; cataract; disorders of the uveal tract; disorders of the retina; disorders of the optic nerve or visual pathways; free radical induced eye disorders and diseases; immunologically-mediated eye disorders and disorders; eye injuries; and symptoms and complications of eye disease, eye disorder, or eye injury.

17. The pharmaceutical composition of claim 12, which is for improving naturally-occurring vision in an animal, in the absence of any opthalmologic disorder, disease, or injury.

18. The pharmaceutical composition of claim 12, wherein the N-heterocyclic carboxylic acid or carboxylic acid isostere comprises a compound of formula (I):



I

where

n is 1-3;

X is either O or S;

R_1 is selected from the group consisting of C_1-C_9 straight or branched chain alkyl or alkenyl, C_2-C_9 straight or branched chain alkenyl, aryl, heteroaryl, carbocycle, or heterocycle;

D is a bond, or a C_1-C_{10} straight or branched chain alkyl, C_2-C_{10} alkenyl or C_2-C_{10} alkynyl; and

R_2 is carboxylic acid or a carboxylic acid isostere;

wherein said alkyl, alkenyl, alkynyl, aryl, heteroaryl, carbocycle, or heterocycle is optionally substituted with one or more substituents selected from R^3, where

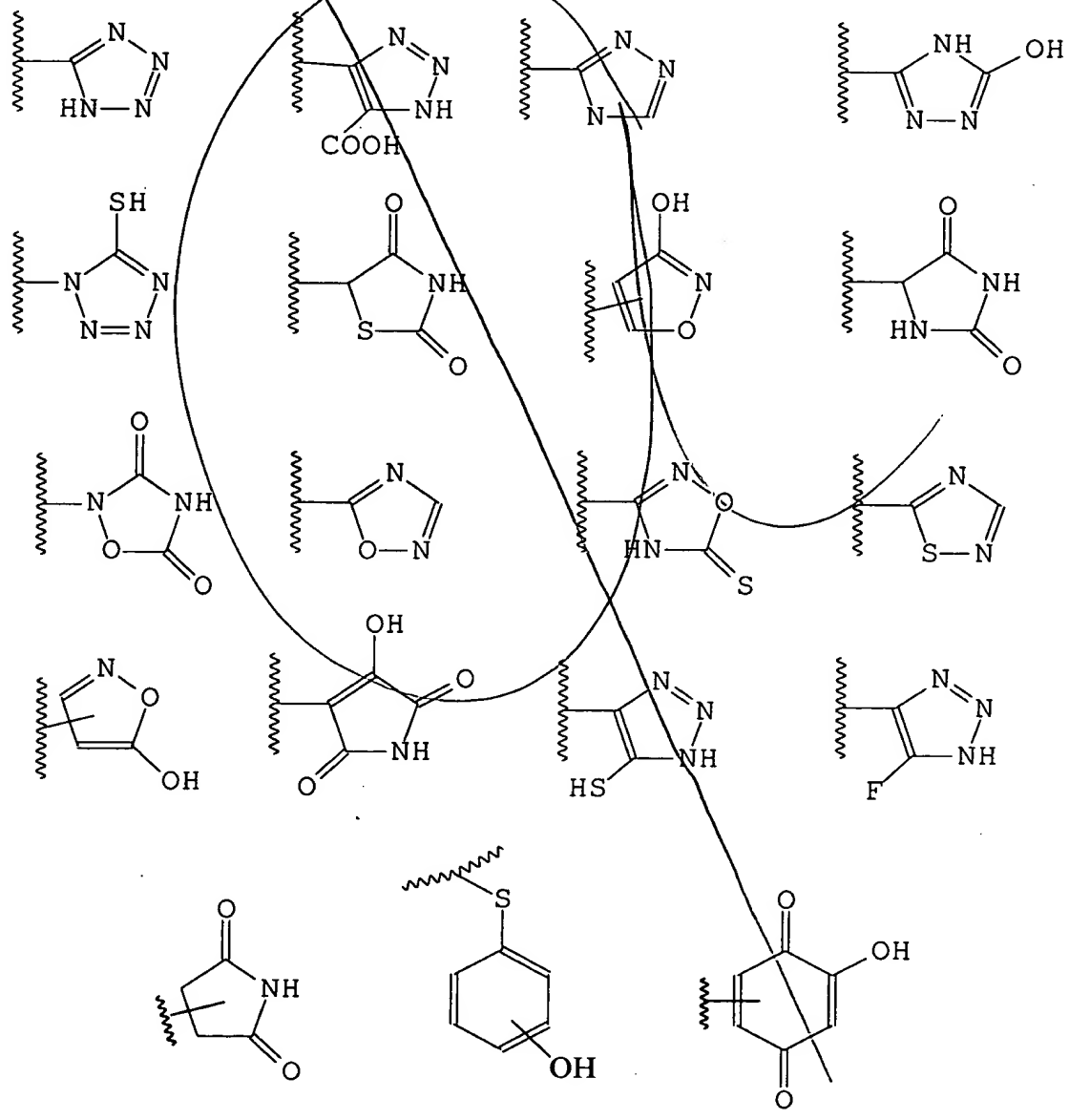
R^3 is hydrogen, hydroxy, halo, haloalkyl, thiocarbonyl, alkoxy, alkenoxy, alkylaryloxy, aryloxy, arylalkyloxy, cyano, nitro, imino, alkylamino, aminoalkyl, sulfhydryl, thioalkyl, alkylthio, sulfonyl, C_1-C_6 straight or branched chain alkyl, C_2-C_6 straight or branched chain alkenyl or alkynyl, aryl, heteroaryl, carbocycle, heterocycle, and CO_2R^4 where R^4 is hydrogen or C_1-C_9 straight or branched chain alkyl or alkenyl;

or a pharmaceutically acceptable salt, ester, or solvate thereof.

19. The pharmaceutical composition of claim 18, wherein R_2 is a carbocycle or heterocycle containing any

combination of CH_2, O, S, or N in any chemically stable oxidation state, wherein any of the atoms of said ring structure are optionally substituted in one or more positions with R^3.

20. The pharmaceutical composition of claim 18, wherein R_2 is selected from the following group:



where the atoms of said ring structure may be optionally substituted at one or more positions with R^3.

21. The pharmaceutical composition of claim 18, wherein R_2 is selected from the group consisting of: -COOH; $-SO_3H$,; $-SO_2HNR^3$; $-PO_2(R^3)_2$; -CN; $-PO_3(R^3)_2$; $-OR^3$; $-SR^3$; $-NHCOR^3$; $-N(R^3)_2$; $-CON(R^3)_2$; $-CONH(O)R^3$; $-CONHNHSO_2R^3$; $-COHNSO_2R^3$; and $-CONR^3CN$.

22. The pharmaceutical composition of claim 18, wherein the N-heterocyclic carboxylic acid or carboxylic acid isostere compound is selected from the group consisting of compounds 1-138.